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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/566,018	01/05/2007	Yukihiro Asa	SAWA0007	9943

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EXAMINER	
PATIDAR, JAY M	

ART UNIT	PAPER NUMBER
2858	

NOTIFICATION DATE	DELIVERY MODE
02/25/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

eptomatters@glenn-law.com

Office Action Summary	Application No.	Applicant(s)	
	10/566,018	ASA, YUKIHIRO	
	Examiner	Art Unit	
	JAY M. PATIDAR	2858	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 October 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2,3 and 5-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *2,3,5-7 and 13* is/are allowed.

6)☒ Claim(s) *8-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

1. This communication is in response to applicant's amendment filed on October 28, 2009.

2. Claims 2,6,7-9,12-13 are objected to because of the following informalities:

In claim 7, the phrase at line 4 "whose magnetic state the Hall device outputs" is awkward; it is vague as to what is meant by said phrase;

it is unclear as to what the magnetic material is at line 8; the structure as claimed with respect to the magnetic material is not clear; how the magnetic material is displaced? What is the magnetic material? Where is the magnetic material located? The same applies to claims 8,13;

at line 11, "second magnet" should be ---a second magnet---; the same applies to claim 13;

the structural connection among the components e.g. magnet, Hall device; supporting member; second magnet is unclear. The structure as claimed is vague because no structural connection or relationship is set forth between the claimed elements. The structure which goes to make up the device must be clearly and positively specified. The structure must be organized and correlated in such a manner as to present a complete operative device. The same applies to claims 8,13;

In claims 2,9, the phrase "where the magnet is not displaced from a position where the magnet is displaced" is not clearly understood;

In claims 6,12, there is no antecedent basis for "mobile object";

Claim 13 is a new claim; it is unclear as to why applicant has placed square brackets around "and" at line 3'; "[[and]] " should be deleted;

In claims 8,13, there is no antecedent basis for "isomagnetic plane".

Appropriate correction is required.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 8-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 44-14970 in view of Sato (6,563,306) or Wakiyama et al. (2004/0075426) and Wolf et al. (4,970,463).

As to claim 8, '970 disclose a magnetic material detection device wherein a magnet 3 is displaceable in the direction of magnetic poles (see fig. 3) and detecting means 2 e.g. reed switch for detecting displacement of the magnet 3

wherein the magnetic material detection device detects that a magnetic material 10 located outside the magnetic material detection device body 1 is located within a predetermined distance from the magnetic material detection device body. '970 does not show the Hall switch and boundary of poles of the magnet crosses the operating point of the detection means (i.e. Hall sensor) after displacement. Sato or Wakiyama and Wolf are cited to show these features. Sato and Wakiyama are cited to show that Hall sensor is nothing but a Hall switch and teach to use a Hall element with a moving magnet (figs. 1-2). The boundary of the magnet poles crosses the operating point as shown in fig. 2. It is well known in the magnetic field related art to use a Hall element for detecting the moving magnet. The movement of the magnet alters the magnetic field density on the Hall sensing element. The on-off state is nothing but the properties of the combination of the magnet and Hall element device (e.g. see Honeywell products brochure-pages 2-3). Honeywell brochure discloses on pages 2-3, a position sensing element e.g. magnetic sensor wherein the magnetic field lines from the moving magnet cross the operating point, the on/off state of the Hall device is reversed (figures 4-5). Wakiyama shows this property in figs. 1 and 3. Sato shows such property in figs. 1 and 2. Wolf shows at col. 4, lines 33-43 that reed switch and Hall switch or sensors are equivalent sensing devices. It would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute Hall sensor in place of reed switch in '970, since the examiner

takes Official Notice of the equivalence of Hall sensor and reed switch for their use in the magnetic field sensing art (art recognized equivalent) and the selection of any of these known equivalents to sense magnetic field are commonplace among artisans (that is their interchangeability) and would be within the level of ordinary skill in the art. Hall element and reed switch are being routinely substituted for one another. Consequently, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of '970 to have included a Hall element as taught by Wolf and use the Hall-magnet arrangement as taught by Sato or Wakiyama to detect the relative position of the magnet.

As to claim 9, '970 shows returning means 4 for returning the magnet to its original position (figs. 1-3).

As to claim 10, '970 does not explicitly show a plate spring. However, '970 discloses a magnet returning means 4 for returning the magnet to the original position whose one end is connected to the magnet side and the other end is connected to the device body or housing 1 (note figs. 1-3, near 13). The use of either the plate spring or a coil spring for returning the magnet to its original position involves only routine skill in the art.

As to claim 11, the magnet 3 in '970 or in Sato or Wakiyama (fig. 1) is a cylinder or rectangular shaped magnet (note figs. 1-3).

As to claim 12, the external object 10 in '970 is a magnetic material (see abstract). The use of such device for a mobile object is merely an intended use of the old device.

4. Claims 2-3,5-7,13 are allowed.

5. Applicant's arguments with respect to rejected claims have been considered but are moot in view of the new ground(s) of rejection.

6. Applicant's arguments filed on October 28, 2009 have been fully considered but they are not persuasive. Applicant argues regarding on-off state of Hall sensing element. Examiner respectfully disagrees. The on-off state of the Hall element is nothing but the fundamental property of the Hall switch-magnet arrangement as explained above. For example, see Honeywell brochure wherein on pages 2-3 it shows position sensing element e.g. magnetic sensor wherein the magnetic field lines from the moving magnet cross the operating point, the on/off state of the Hall device is reversed (figures 4-5). Furthermore, as can be seen in figs. 1 and 3 of Wakiyama, the output signal of Hall is shown in fig. 3 as "a" thereof wherein it shows when the boundary line of the magnet poles crosses the operating point, the on-off state of the Hall element changes. Applicant also

argues about the Hall switch and magnet arrangement. As explained above, the Hall element is an art-recognized equivalent to the reed switch.

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Note PTO-892 for on-off state of the Hall switch.

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAY M. PATIDAR whose telephone number is (571)272-2265. The examiner can normally be reached on M-Thur 8:00-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Assoud can be reached on 571-272-2210. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jay M. Patidar/
Primary Examiner
Art Unit 2858